22

#20

On

Inaugural dissertation

on

Cynanche Trachealis

by Littleton G. Coleman

admitted March 10th 1821

Cynanche Trachealis

This disease has various appellations applied to it by different authors. It has been called suffocatio stridula. angina Polyposa, the popular name is Croup or Hives. the latter is a corruption of the word heaves. Unquestionably the best nosological title is Trachitis. it very manifestly designates the nature of the complaint & gives uniformity to medical nomenclature & corresponds with Pleuritis. Gastritis & all of the other names applied to inflammatory affections. It is considered a disease of modern date. Dr Home of Edinburgh is considered the first who described the disease. he was the professor of Materia Medica in the university of Edinburgh & the cotemporary of Cullen. Cynanche Trachealis is for the most part confined to early life. occuring generally between the first & fifth year. it sometimes attacks infants in the month & also adult subjects. such cases must be considered anomalous deviations. from the common course & nature of the complaint. It appears in some instances to belong to families. It is alledged by some that Croup is propagated by contagion but there is no good reason for such a

supposition. Dr Cullen says it very commonly attacks with the ordinary symptoms of a Catarrh, but sometimes the peculiar symptoms of the disease shew themselves at the very first. He says these peculiar symptoms are the following. a hoarseness, with some shrillness & ringing sound, both in speaking & coughing, as if the noise came from a brazen tube. at the same time there is a sense of pain about the Larynx. some difficulty of respiration. with a whizing sound in inspiration, as if the passage of the air were straitened. the cough which attends it is commonly dry & if any thing be spit up it is a matter of a purulent appearance & sometimes films resembling portions of a membrane, Together with these symptoms there is a frequency of the pulse. a restlessness & an uneasy sense of heat. When the internal fauces are viewed, they are sometimes without any appearance of inflammation. but frequently a redness & even swelling appear & sometimes in the fauces there is an appearance of matter, like to that rejected by coughing. With the symptoms now described, continues Cullen, & particularly with great difficulty of breathing & a sense of strangling in the fauces, the patient is sometimes taken off suddenly. Croup originates in a moist, cold & austere

atmosphere & on this account is more prevalent in the spring than in any other season. It has been observed to be most prevalent near the sea coast, where the air is loaded with moisture. But it is frequently met with in inland situations, & particularly in those which are marshy. It is less known in temperate than in the northern regions of Europe. This disease may be distinguished from Acute Asthma by the following diagnostics. In the former the cough is frequently ringing in our ears, whereas in the latter there is little or no cough. in croup there is seldom or ever any remission. whereas in Acute Asthma it is one of the most striking phenomina of the disease & is attended with some evacuation as belching vomiting or purging. In croup the pulse is strong with much febrile heat. the urine high coloured & the voice shrill & small, in acute asthma the pulse although perhaps equally quick is less full. the urine is limpid & the voice croaking and deep. however great the dyspnoea the deglutition is free in croup. Some authors consider the disease as occasionally epidemic which is probably a fact. It was considered as such, when General Washington fell a victim to it in the neighbourhood of Alexandria Virginia

Anno Domini 1799. It is very evident that this complaint is endemial to particular places. It is said the disease is rarely known in Edinburgh. but a small sea port town very little way from Edinburgh, is so desolated by croup, as to render it almost impossible for the inhabitants to raise their children. the same may be said of Baltimore for the disease is rarely known there. Whereas at Fells Point which bears the same relation to Baltimore, as Leith does to Edinburgh, the disease is very apt to occur. Writers have divided this disease into spasmodic & inflammatory & very considerable discussion has taken place relative to the subject. It would seem that in all cases where it suddenly attacks, it must partake of the nature of spasm. the early symptoms correspond exactly with this view of its pathology and dissections fully confirm it. shewing where death promptly happens, none of the phenomina of inflammation, but under opposite circumstances or where the disease slowly comes on, or is the effect of inflammation of other parts, extending to the trachea, then of course it is of a contrary nature & inspections after death have revealed exactly such appearances, as might have

been anticipated. Admitting however the above distinction, I are not aware that it leads to any practical diffe rence, especially as it relates to the use of emetics. None disputes the indispensable necessity of actively puking in the commencement of an attack of croup whatever theory may be entertained. We always commence with endea voring to vomit the child freely & for this purpose the tartarized antimony is decidedly preferable, taken at short intervals, as this is one of the most certain & powerfull of all emetics, at the same time we direct the patient to be placed in a warm bath & continued in it for ten or fifteen minutes. This is an highly useful remedy, it rare ly fails to promote the operation of the emetic & will indeed sometimes by itself effect a cure of this disease. If the emetic however do not operate or its operation has proved ineffectual, then we bleed copiously and afterwards repeat the warm bath & emetic. The disease must be exceedingly obstinate if it do not yield to this treatment. Nevertheless it occasionally continues with little or no abatement of the symptoms of the disease

in despite of the remedies employed. Under these circumstances we resort to topical bleeding either by leeches, cups & after the inflammation has subsided recapping, blister or sinapisms to the extremities or from one part to the other. When the preceding remedies fail or if the symptoms are so alarming as to require it, we should bleed ad deliquium animi. When pushed to this extent venesection is almost uniformly successful. The moment syncope is produced by venesection the cough is relieved, impeded respiration & fever all totally disappear, the disease being thus broken, which is always shewn by the removal of the preceding symptoms & still more by the restoration of the susceptibility of the system to the operation of remedies. We administer Calomel not in small & seperate doses as is generally recommended but in the largest possible dose in order that it may speedily & actively purge, in this stage of the disease evacuations from the alimentary canal carry off the lingering symptoms of disease, prevent relapses, convalescence but frequently hasten by the chest & appearance breathing, cost or remain [illegible] the Senecia & extra [illegible] Vessin extinguishing the remain of croup that Senecia displays its best properties. The practice just mentioned is adapted chiefly to the early or

forming stage of croup. At this period the disease is yet confined to the trachea and consists either in a spasmodic constriction of the tube, or in an inflammatory disease of its lining membrane. But the disease being suffered to continue for eight or ten hours and sometimes even less time it extends to the Bronchia and into the lung substance of the lungs. A vast secretion of mucus or phlegm and an engorged or suffocated state of the lungs now take place precisely as in Peripneumonia Vera. the symptoms at this critical juncture are different from those of the first stages in the commencement of an attack of croup. the voice is hoarse the cough is hard, dry and not inaptly compared to the sharp sound of barking or to the crowing of a young chicken. at the same time there is more or less of fever. a considerable degree of anxiety and restlessness and an indescribable wretchedness. the child will not remain long in one posture and cannot be completely tranquilized he whimpers and frets and seems to be exceedingly uneasy without suffering much positive pain. but in the following and more advanced stages. all of those symptoms exist which indicate an interrupted circulation in the lungs. these organs loaded and oppressed are unable to perform their functions the

countenance at the same time is mottled, the cheeks have a circumscribed flush together with some mixture of paleness, the eyes are prominent and inflamed the pupil considerably dilated and the expression of the countenance wild and haggard, the respiration is increasingly laborious with a full and disturbed pulse -

The child sinking under the disease, the respiration becomes more tranquil, with a weak and irregular circulation. The disease in every respect is Peripneumonia Notha, and must be treated accordingly. The indication in the first place is to relieve the lungs and to establish a free and equal circulation. To accomplish this purpose, the child should be placed in the warm bath, and while it is in this situation, copious vomiting should be excited by active stimulating emetics, as Sulphate of Zinc and if this is not at hand, tartarized antimony. As soon as the pulse will justify the remedy, we should have recourse to venesection, drawing a little blood at a time, suppressing the flow and watching the effect on the system. If you find the first bleeding beneficial, recur back again from time to time until your views in this respect are accomplished, the receiving of such extreme circumspection in the use of the lancet in this case

arises from so much blood being taken out of the circulation and confined in a half stagnant condition in the lungs so that a small portion suddenly detracted from the system by the operation of venesection might reduce the system below the point of reaction and then induce immediate death. but as in the case of Peripneumonia Notha, where we cannot at all employ the lancet we may substitute in its place topical depletion, from the chest by cups or leeches. This remedy is of unquestionable advantage. As cooperating with the previous remedies, a blister should be applied over the whole of the chest. but if the case is so urgent as not to admit time for the drawing of the blister, some means of a more speedy vesication should be substituted. as cloths rung out of boiling water, or pledgets of lint dipt in tincture of Cantharides with spirits of turpentine. The subsequent treatment consists in the use of expectorants and of these antimonial wine, hydromel or vinegar of squills, a decoction of Senega either alone or in combination will answer exceedingly well. Much may be expected at this stage of the disease from the liberal exhibition of calomel. Some of the Edinburgh practitioners manage croup principally with Calomel, the dose is immense and almost incredible

we must bear in mind that the susceptibility of the system to remedial impressions is greatly diminished. Here if the lancet had been used, the susceptibility of the system would have been augmented & much smaller dose of calomel would have answered equally well. Dr Hamilton professor of midwifery in the university of Edinburgh is a strong advocate for the use of the submuriate of mercury in croup. He tells us in every case where he has administered it previous to the occurrence of the livid lips, and other mortal symptoms, he has completely succeeded in curing the disease. His mode of employing it is, having previously put the child into a tub of hot water heated to the ninety sixth degree of Fahrenheits thermometer or wrapt up in a blanket wrung out of hot water. To give it a dose of from one to five grains according to the age every hour till the breathing is evidently relieved, when it is gradually discontinued, allowing at first two then three, and finally four or five hours to intervene between each dose, according to the state of the symptoms. The submuriate of mercury is no doubt useful in croup, but the professors mode of using it to the exclusion of other remedies such as bleeding both generally and topically, emetics &c we cannot recommend.

the disease is more inflammatory, more rapid in its progress, and requires the energetic treatment mentioned above. It has been and still is in a great measure the common opinion, that the inflammatory affection in croup, is chiefly confined to the trachea and bronchia. but Drs Brette and Lherye have asserted the contrary, and have given a minute account of several dissections of this disease, wherein the lungs were affected with deposited inflammation and thus from the firmness of these organs from not collapsing, when the chest was exposed, and from a kind of purulent matter found in the cells of the lungs. When brought to maintain in health it is by a resolution of the inflammation by a cessation of the spasms by relief to the dyspnoea and the voice becoming natural, with a copious and free expectoration of the matter exuding from the trachea &c. The unfavourable symptoms are considerable difficulty in breathing, great anxiety, violent fever, frequent fits of coughing, no expectoration, the voice becoming more feeble, the pulse irregular and intermitting. Much has been said of the existence of a membrane in the larynx, which is supposed to be the cause of death. So much consequence has been attached to this membrane, that an operation has been performed for its removal.

That such a membrane occasionally exists there can be no doubt though it is exceedingly rare. Dr Physick has a preparation of this membrane, which shews it in its perfect state. ~~and its extreme rigidity~~ Even if the membrane does exist. we do not know that an operation would be of any advantage. the disease does not depend on this adventitious production. There is great obstruction in the ramifications of the bronchiæ and the lungs are alsin a very depressed & disordered condition. even if the membrane were removed therefore we would not remove the complaint. at all events we should only palliate it. Two causes have concured to render croup more fatal than it otherwise should been. It is a very popular opinion that children. owing to extreme delicacy of constitution cannot bear any very vigorous impression of remedies. the common practice is very inert. The two causes rendering croup more fatal than it should be are an erronious idea as respects its pathology & the feeble mode of its management. Children have been found alive at the breast of their mothers who had died from exposure to cold. they resist contagion better than adults & recover with greater ease from attacks of contagious and other disorders. they also sustain very well the operation of active remedies as

vomiting. purging. sweating. blisters & the loss of blood, During the growth of the body. the proportion of the fluids to that of the solids is evidently greater than when the system has attained its full size. This fullness of the bloodvessels renders children particularly liable to inflammatory attacks & nearly all of their complaints partake of this character & hence they are often to be bled.